

On *Mallotus* and *Deuteromallotus* (*Euphorbiaceae*) in Madagascar

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Summary : The genus *Deuteromallotus* is shown to have been based on a misconception and its name to belong in the synonymy of *Mallotus*, one new combination is made in that genus, a new species is described, and a key to the Madagascan species is provided.

Résumé : L'auteur montre que le genre *Deuteromallotus* est basé sur une mauvaise interprétation de certains caractères et doit être considéré comme synonyme de *Mallotus*. Une nouvelle combinaison est établie, une nouvelle espèce est décrite, et une clé des espèces malgaches est proposée.

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Recently studied material at P and at MO demonstrates that the characters thought to separate *Mallotus* and *Deuteromallotus* have been misinterpreted, and that, in fact, no justification exists for this separation. As LEANDRI (1956) stated, PAX & HOFFMANN established the genus *Deuteromallotus* in 1914 to hold the Madagascan species *D. acuminatus* (Baill.) Pax & K. Hoffm., which they considered to have a very short style, and a stigma that is scarcely papillose and not wider than the style. In the same paper LEANDRI established *D. capuronii*, which he described as agreeing with the type species in these generically diagnostic characters, but clearly differing from it in several minor ways. WEBSTER (1994) placed *Mallotus* and *Deuteromallotus* next to one another in Subtribe *Rottlerinae* Meisner of Tribe *Acalypheae* Dumortier in the Subfamily *Acalyphoideae* Ascherson, again using primarily the nature of the style to separate them.

It is now evident, however, that the style/stigma in both species of *Deuteromallotus* is, in fact, an elongate, coarsely papillose structure in no way distinguished from that of *Mallotus*. The confusion is undoubtedly due to the fragility of this group's pistillate flower, from which the style/stigma can be easily lost if collected specimens are not immediately pressed. Once such a loss has occurred, the mistaking of the stubs of the style base for the complete pollen-receiving apparatus is easily understood. Several collections (among them, *Service Forestier 11535* and *28469* (*D. capuronii*, Fig. 1, 1-3) ; and *Nicoll et al. 586* and *Scott Elliot 2556* (*D. acuminatus*) have thus far been found with the style/stigma intact on at least some of the pistillate flowers.

This clarification makes the following changes necessary.

1. **Mallotus** Lour., Fl. Cochinch. : 635 (1790).

— *Deuteromallotus* PAX & K. HOFFM., in ENGL., Pflanzenr. 63 (4.147.7) : 212 (1914), *syn. nov.*

TYPE SPECIES : *D. acuminatus* (Baill.) Pax & K. Hoffm. ; based on *Boutonia acuminata* Baill. (Etude Gen. Euphorb. : 401, 1858), in turn based on *Chapelier s.n.* (P!).

2. The species known as *Deuteromallotus acuminatus* (Baill.) Pax & K. Hoffm. must, on being transferred to *Mallotus*, be called *M. baillonianus* Muell. Arg. because the name *M. acuminatus* (Blume) Muell. Arg. (Linnaea 34 : 186, 1865) exists for a Javanese species. In the same Linnaea paper (p.187), MUELLER provided the new name in *Mallotus* needed for the present species.

3. **M. capuronii** (Leandri) McPherson, *comb. nov.*

— *Deuteromallotus capuronii* LEANDRI, Bull. Soc. Bot. France 103 : 605 (1956, publ. 1957) ; type : *Service des Eaux et Forêts 8713* (holo-, P!).

In addition, the study of recent collections has revealed the following new species.

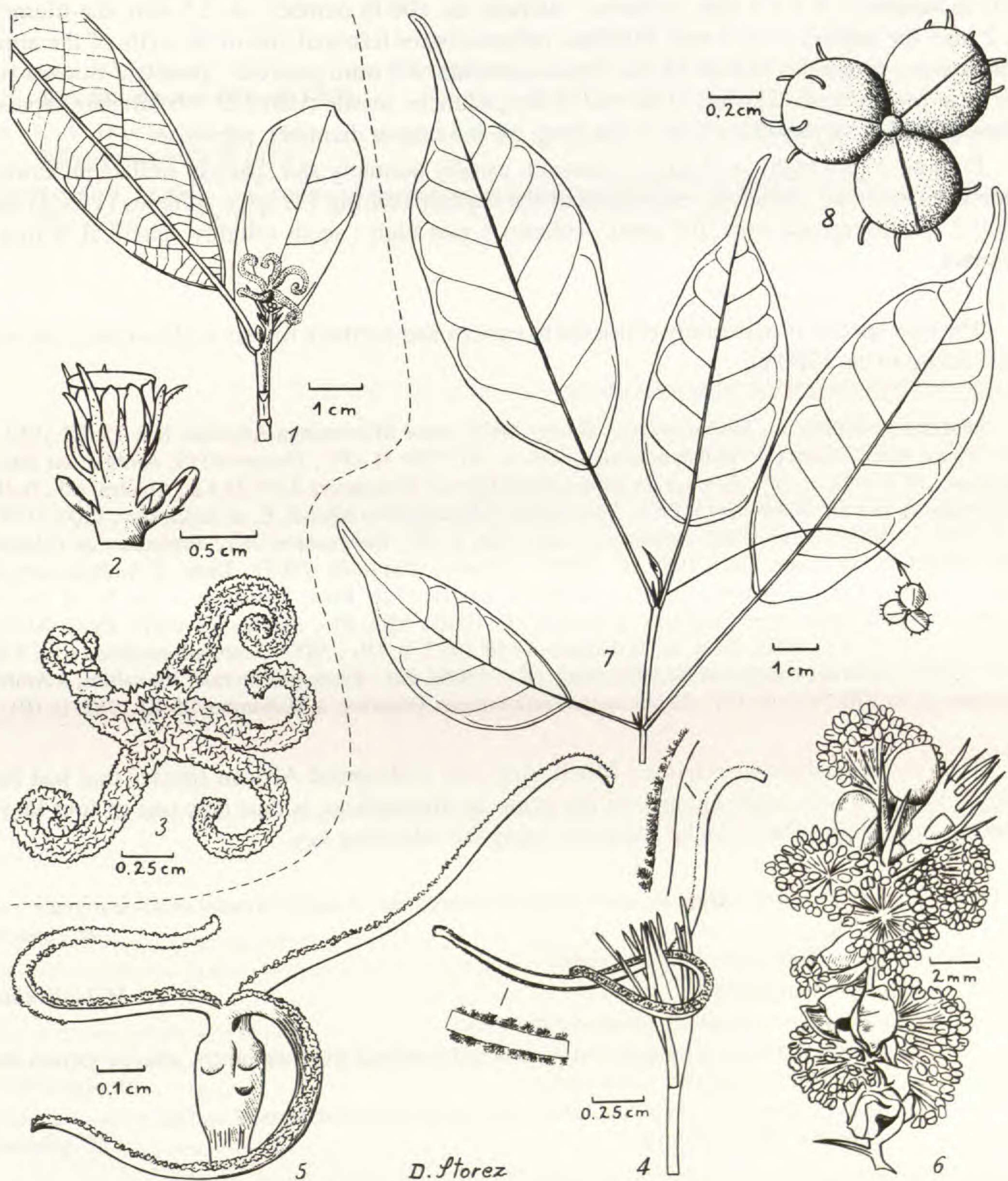
Mallotus spinulosus McPherson, *sp. nov.* — Fig. 1, 4-8.

Species madagascariensis combinatione caulium stipularum petiolorum fere glabrorum, stipularum brevium (3-5 mm), foliorum ellipticorum acuminatorum, pedunculorum florum femineorum longorum (2.5-11 cm), fructuum solitariorum parvorum (ca. 8 mm diametro) sparsim spinulosorum a congeneribus insulae distinguenda.

TYPE : *Schatz & Lowry 1301* (holo-, MO! ; iso-, BR, C, DAV!, DSM, EA, ERE, G, GH, K, LE, NY, P!, PRE, S, SRGH, TAN, US, and WAG).

Small tree to ca. 4 m, sometimes somewhat clambering ; young twigs glabrous or obscurely puberulent, bearing minute glandular granules, the older twigs grey and smooth. Leaves opposite, unequal. Blades elliptic to ovate, the smaller 2.6-9 × 0.9-3.5 cm, the larger 5.0-16.5 × 2.1-8 cm, somewhat coriaceous, broadly acute to obtuse at the base, acuminate at the apex, the acumen up to 2.5 cm ; the midrib raised on both surfaces ; secondaries 6-9 on each side of the midrib, slightly raised and flattened on the lower surface, lighter in colour than the rest of the lower surface ; both surfaces without glandular granules, the upper surface glabrous, the lower surface glabrous or minutely appressed-puberulent except for the hairs surrounding the domatia ; domatia somewhat elongate and sunken, in the axils of the secondary veins, bordered at least initially by long hairs. Shorter petioles 0.5-2.3 cm, the longer 1.2-6.5 cm, terete or narrowly caniculate, markedly pulvinate at both ends, the upper pulvinus usually erect-puberulent, as is sometimes the rest of the petiole. Stipules subulate, 3-5 mm, glabrous, caducous.

Plants dioecious or monoecious. Staminate inflorescences racemose, terminal and in the axils of the uppermost leaves, the axis 1-2.5 cm, puberulent and glandular-granular to resinous ; bracts



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Fig. 1. — *Mallotus capuronii* (Leandri) McPherson : 1, habit ; 2, pistillate flower and bracts after the fall of the style ; 3, style, showing adaxial stigmatic surface (*Service Forestier* 28469). — *Mallotus spinulosus* McPherson : 4, pistillate flower ; 5, ovary ; 6, portion of staminate inflorescence (including, atypically, a pistillate flower) ; 7, habit ; 8, fruit. (4, 5, *Bosser* 6626 ; 6, *Schatz & Lowry* 1301 ; 7, 8, *Service Forestier* 4903).

subulate, 2-3 mm ; pedicels 1.5-2 mm, jointed near the base ; buds 2-2.5 mm in diameter ; sepals 3(-4) in number, 1.5 × 1.5 mm, resinous ; stamens ca. 100 in number, ca. 2.5 mm, the filaments ca. 2 mm, the anthers ca. 0.3 mm. Pistillate inflorescences terminal and in the axils of the uppermost leaves ; peduncles (2.5-)5-11 cm ; bracts subulate, 3-5 mm, glabrous ; pistillate flowers solitary or in few-flowered clusters at the end of the peduncle, sessile ; calyx of 5-6 subulate sepals 2-4 mm, glabrous ; styles (2?-) 3, ca. 1 cm long, ca. 0.5 mm in diameter, papillose.

Fruit ca. 5 mm high, ca. 8 mm in diameter, usually minutely and sparsely stellate puberulent, sometimes resinous, spinulose, each sixth of the capsule bearing 1-2 large spinules (1-2(-4) mm) and 0-2 smaller spinules (ca. 0.5 mm) ; column 4 mm high ; seeds roughly spherical, 4 mm in diameter.

The new species is apparently restricted to eastern and northern forests at elevations from near sea level up to ca. 1200 m.

MATERIAL STUDIED. — MADAGASCAR : *Bosser 6626*, route Moramanga-Anosibe, Km 15, IX.1953, fl. (P) ; *Cours 1205*, District d'Ambatondrazaka, 950 m, XI.1938, fl. (P) ; *Decary 6519*, Ambila, au Sud de Tamatave, 10.V.1928, fl. (P) ; *Herbier du Jardin Botanique de Tananarive 4353-D*, Lac Alaotra, s.d., fl. (P) ; *McPherson & van der Werff 16415*, Prov. Antsiranana, Manongarivo Massif, E. of Ankaramy, 1100-1175 m, 19.X.1994, fr. (MO) ; *Peltier 5998*, Ambatovy, 1.VII.1966, fl. (P) ; *Rabevohitra 2052*, Préfecture de Tolagnaro (Fort Dauphin), Ste Luce, 20.X.1989, fl. (MO) ; *Réserve Naturelle 12031*, Distr. d'Ambatondrazaka, Manakambabiny-Est, 22.III.1962, fl. (P) ; *Schatz & Lowry 1301*, Prov. Tamatave, 1 km N. of Ambila-Lemaitso, coastal dune forest, 0-50 m, 4.IV.1987, fl. (DAV, MO, P) ; *Service Forestier 2937*, Ambila-Lemaitso, s.d., fl. (P) ; *4903*, Distr. de Mahambo, 14.III.1952, fr. (P) ; *5857*, Ambila-Lemaitso, 10.X.1952, fl. (P) ; *7474*, Ambila-Lemaitso, 6.XI.1952, bout. (P) ; *18064*, Est : Forêt sublittorale, sur sables, à Ambila-Lemaitso, 8-10.VIII.1957, fr. (P) ; *22113*, entre Foulpointe et Fenerive, à Mahambo, 25.XI.1962, fr. (P).

Mallotus oppositifolius (Geisler) Muell. Arg., the widespread African species that had been thought to be the only representative of the genus in Madagascar, is thus now one of four known Madagascan species. They can be separated using the following key.

1. Leaves obovate to oblanceolate, the apex obtuse or emarginate, or rarely broadly short-acuminate *M. capuronii*
- 1'. Leaves ovate or elliptic, apex long-acuminate 2
 2. Twigs densely pubescent *M. baillonianus*
 - 2'. Twigs glabrous or obscurely farinose-puberulent 3
 3. Leaves with two prominent basal veins differentiated from the others, abaxial surface bearing glandular granules ; fruit smooth *M. oppositifolius*
 - 3'. Leaves pinnately veined, the basal veins undifferentiated, abaxial surface without glandular granules ; fruit spinulose *M. spinulosus*

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